

Reply to Office Action of August 13, 2003

REMARKS:

Claims 56, 62, and 63 are amended. Claims 55-71 are pending in the application. Reexamination and reconsideration of the application, as amended, are respectfully requested.

INFORMATION DISCLOSURE STATEMENT:

The Examiner states that that document listed under 'OTHER DOCUMENTS' in the information disclosure statement filed on May 31, 2001 has not been considered because the document was not found in the file. In response, the Applicant encloses herewith a copy of this document.

CLAIM OBJECTIONS:

The Examiner states, "Claims 56 and 62 are objected to because of the following informalities: in claim 56, 'bioploymer' in line 1 is misspelled, and should be -biopolymer; in claim 62, 'suppot' is misspelled and should be support. Appropriate correction is required." In response, the Applicant changed "bioploymer" to --biopolymer-- and "suppot" to --support--. Withdrawal of these objections is thus respectfully requested.

CLAIM REJECTIONS UNDER 35 U.S.C. § 112:

Claim 63 is rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to point out and distinctly claim the subject matter which applicant regards as the invention.

The Examiner states that the phrase "like structures" renders the claim indefinite. In response, the Applicant deleted the phrase "like structures" from claim 63. Withdrawal of this rejection is thus respectfully requested.

CLAIM REJECTIONS UNDER 35 U.S.C. §102:

Claims 55-71 stand rejected under 35 U.S.C. §102(e) as being anticipated by Milton (U.S. Patent No. 6,110,669). The Applicant respectfully traverses this rejection.

Claim 55 is as follows:

A device comprising a plurality of unmodified biopolymer and a solid support, wherein the solid support has at least one surface comprising pendant acyl fluoride functionalities, and wherein the biopolymer is attached to the solid support by reaction with the pendant acyl fluoride functionalities.

Applicant respectfully submits that Milton cannot anticipate claim 55, because Milton does not teach a "device comprising a plurality of unmodified biopolymer." In Milton, the solid support surface is contacted with "derivatized biopolymer" under conditions that result in the attachment of the "derivatized biopolymer" to the solid support surface. (Milton, column 3, lines 57-61; column 9, line 63-column 10, line 4). For example, in a preferred process, an oligonucleotide biopolymer is derivatized by adding an amino group to its 5' end. (Milton, column 10, lines 13-45). Consequently, in Milton, the biopolymer is modified prior to being attached to the solid support. Therefore, Milton cannot anticipate claim 55 of the present invention.

Milton cannot make instant claim 55 obvious. Milton has no teaching or suggestion whatsoever of attaching unmodified biopolymers directly to the active pendant functional groups of a solid support. In Milton, preferably the active pendant functional group will react readily with biopolymer or biomonomer derivatized with at least one amino functionality to form amides. (Milton, column 9, lines 46-49). It is a discovery of the present invention that biopolymers of the present invention may be attached to a solid support without any modification to the biopolymers. For example, in accordance with one embodiment of the present

invention, biopolymers such as, but not limited to, polynucleotides, protein A, antibodies or streptavidin may be attached to a solid support without any modifications to the biopolymers. (Applicant's specification, at page 5, lines 27-31). The attachment of unmodified biopolymers directly to a solid support simplifies and increases the versatility of a process for creating biopolymer arrays. (Applicant's specification, at page 4, lines 1-3).

In light of the foregoing, Applicant respectfully submits that Milton could not have anticipated or rendered obvious claim 55, because Milton fails to teach or suggest each and every claim limitation. Claims 56-71 depend from claim 55 and cannot be anticipated or rendered obvious for at least the same reasons as claim 55. Withdrawal of these rejections is thus respectfully requested.

Claims 55-61 and 63-71 stand rejected under 35 U.S.C. §102(e) as being anticipated by Obremski et al. (U.S. Patent No. 6,110,749). The Applicant respectfully traverses this rejection.

Applicant respectfully submits that Obremski cannot anticipate claim 55, because Obremski, similar to Milton, does not teach a "device comprising a plurality of unmodified biopolymer." In Obremski, the oligonucleotide probe that was covalently coupled to the waveguide was provided with a biotin linkage. (Obremski, column 16, line 64-column 17, line 6). Consequently, the biopolymer is modified with a biotin linkage. Therefore, Obremski cannot anticipate claim 55 of the present invention.

Obremski cannot make instant claim 55 obvious. Obremski has no teaching or suggestion whatsoever of attaching unmodified biopolymers directly to the active pendant functional groups of a solid support. In Obremski, the target analyte is pretreated with CY5 dye and also provided with an avidin linkage. (Obremski, column 17, lines 1-3). The target analyte can then bind to the oligonucleotide probe through the avidin-biotin linkage. Thus, Obremski relies on the modification of the

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biopolymer for binding. Consequently, Obremski doesn't offer the advantages of the present invention discussed above.

In light of the foregoing, Applicant respectfully submits that Obremski could not have anticipated or rendered obvious claim 55, because Obremski fails to teach or suggest each and every claim limitation. Claims 56-61 and 63-71 depend from claim 55 and cannot be anticipated or rendered obvious for at least the same reasons as claim 55. Withdrawal of these rejections is thus respectfully requested.

In view of the foregoing, it is respectfully submitted that the application is in condition for allowance. Reexamination and reconsideration of the application, as amended, are requested.

If for any reason the Examiner finds the application other than in condition for allowance, the Examiner is requested to call the undersigned attorney at the Los Angeles, California telephone number (213) 337-6700 to discuss the steps necessary for placing the application in condition for allowance.

If there are any fees due in connection with the filing of this response, please charge the fees to our Deposit Account No. 50-1314.

Respectfully submitted,

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